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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/768,443

01/30/2004

Frederick Ware

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7590 02/26/2007
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EXAMINER

NGUYEN, TRUNG Q

ART UNIT	PAPER NUMBER
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2829

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/768,443

Applicant(s)

WARE ET AL.

Examiner

Trung Q. Nguyen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 02/05/07.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-181 is/are pending in the application.
- 4a) Of the above claim(s) 15-179 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 180 and 181 is/are rejected.
- 7) ☒ Claim(s) 6-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5 and 180-181 are rejected under 35 U.S.C. 102(e) as being anticipated by Komatsu et al. (U.S. 6, 631,486).

Regarding claims 1 and 180-181, Komatsu et al. disclose in Fig. 2, a test circuit 10, a first element 21-23 and second element 22,23,26 comprises at least one of a transmitter 22 and receiver 22; wherein when the first element is couple to the test circuit 10 and the second 22,23,26 element is coupled to the first element 21-23; at least one of the first and second elements is capable of testing another one of the first and second element using the test circuit via through Data_En and Data_Rx; and the first element comprises a receiver 23 when the second element comprises a transmitter 22.

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Regarding claim 5, Komatsu et al. disclose in Fig 2, the test circuit includes a pattern generator 11 and pattern compare circuitry 12.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu et al. (U.S. 6, 631,486) in view of Haruyama (U.S. 7,092,637).

Claims 2-4 add the limitation wherein the semiconductor device is configured to operate at high frequencies (1Ghz-3Ghz). Komatsu et al. disclose a high-transfer rate signal pattern of the receiver 23 and transmitter 22 in column 6, lines 15-20 wherein transfer rate is about 400Mbps. However, Haruyama disclose in column 1, lines 30-35 that transfer rate of 400Mbps is operate at a gigahertz (high frequencies up to 5Ghz).

The transfer rate of 50Mbps to 400Mbps corresponds to the range of 1-5Ghz frequencies, which overlaps with the claimed ranged (See, e.g., *Atofina v. Great Lakes Chem. Corp*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006)).

Response to Arguments

5. Applicant's arguments with respect to claims 1-5 have been considered. Some of the arguments are moot in view of the new explanations provided in the rejection for applicant's benefit. The other arguments are not persuasive.

6. *The applicants argue that:*

Claim 1 calls for a single "semiconductor device, comprising: a test circuit; a first element [transmitter or receiver]; and a second element [transmitter or receiver]..."the Examiner has admitted that Komatsu et al. does not disclose a single "semiconductor device comprising..."

7. *The examiner respectfully disagree to the above argues because:*

The Examiner now using second embodiment of Komatsu et al. to reject claims 1-5 and 180-181, wherein column 7, lines 53-55 wherein tester and DUT are in the same semiconductor structure.

Allowable Subject Matter

8. Claims 6-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: claims 6 and 10 recite, inter alia, "at least one reference signal line that carries a voltage reference signal and wherein the test circuit includes at least one comparator circuit to compare at least one voltage signal representing received data with the voltage reference signal".

Claims 7-9 and 11-14 variously depending from claims 6 and 10 are allowable for the same above reasons.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trung Nguyen** whose telephone number is **(571) 272-1966**. The examiner can normally be reached on Monday through Friday, 8:30AM – 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ha Nguyen** can be reached at **(571) 272-1678**.

Trung Nguyen
Patent Examiner
Group Art Unit 2829
February 15, 2007.



HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER